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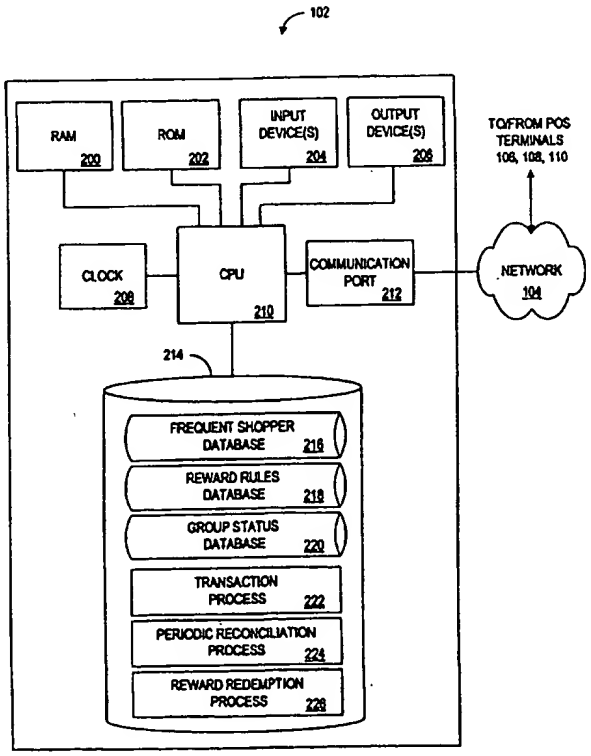
(54) Title: POINT-OF-SALE SYSTEM AND METHOD FOR THE MANAGEMENT OF GROUP REWARDS

(57) Abstract

A method and apparatus for managing a group reward program is disclosed whereby a group of consumers is registered with a merchant as a shopping group. The group is encouraged to make a minimum purchase of goods or services from the merchant through the offerint of a group reward. The group may become eligible for a reward after it acheives a desired minimum purchase goal established by the merchant. The minimum purchase goal may be determined based on the average purchases by the group as a whole, the average purchases of each member of the group, the individual purchases of each group member and other like methods. The minimum purchase goal may further be subject to a time limitation. Group purchases are monitored by the merchant's point-of-sale terminal network. In this manner, the members of the group encourage each other to make an appropriate amount of purchases from the merchant so that the group may earn the reward. This groups behavior, in turn, enhances the merchant's sales.



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POINT-OF-SALE SYSTEM AND METHOD FOR THE MANAGEMENT OF GROUP REWARDS

This application is a continuation-in-part of United States patent application Serial No. 08/948,144 entitled "Method and Apparatus for Processing Customized Group Reward Offers" filed on October 9, 1997 by Jay S. Walker, Sanjay K. Jindal and Toby Weir-Jones, the entirety of which is incorporated by reference herein.

Field of the Invention

The present invention relates generally to computer applications, and relates more specifically to computer-monitored business applications that use point-of-sale terminals to monitor transactions processed according to a group reward program.

Background of the Invention

Certain frequent shopper programs are well known and widely practiced by many merchants. These prior art programs typically provide a reward to consumers when they meet certain purchasing criteria or goals. Through such programs, merchants may increase their customer base and market share by inducing consumers to purchase a certain level of goods and/or services over a predetermined period of time. For example, a reward may be offered by a merchant to a consumer (i.e. a "frequent shopper") who purchases $100.00 of goods and/or services in a month.

Such programs tend to result in larger merchant sales since a consumer has the incentive to make all of his or her purchases through the one merchant offering a reward, rather than making purchases through competing merchants. The consumer thus becomes loyal to the merchant in an effort to meet the merchant's purchasing goals so that he or she may earn the reward.

Some prior art frequent shopper programs are implemented manually. In a manual frequent shopper program, a merchant issues a wallet-sized card to a consumer, who retains it. During each transaction, the consumer presents the card to the merchant. After a qualified purchase has been made, the card is marked or hole-punched by the merchant to indicate the completed transaction. Examples of a qualified purchase include a purchase exceeding a minimum amount or a purchase of specific goods or services. After the card is marked, it is returned to the consumer. When the consumer has purchased a pre-defined amount of goods or services, thereby accumulating a pre-determined amount of marks or hole-punches, the card may be redeemed for a reward. The reward is typically a discount on future purchases or a free item from the merchant.

Other prior art frequent shopper programs are automated and practiced through the use of point-of-sale terminals. In an automated frequent shopper program, a consumer is issued a card with a consumer identifier included thereon. Conventionally, the consumer identifier is in a machine-readable format, such as a bar-code or magnetic stripe. At each transaction, the consumer presents his or her card to an operator of a merchant's point-of-sale terminal. The card is read by the terminal and the transaction is processed and recorded in a database record corresponding to the consumer identifier. The database records are maintained by the merchant's computerized point-of-sale network, and when the consumer's purchases reach a predetermined level, the merchant may issue a reward to the consumer. Like the manual frequent shopper program discussed above, the reward in such an automated system is typically a discount on future purchases or a free item from the merchant.

The automated frequent shopper program is more advantageous than the manual program for several reasons. For instance, a merchant using a manual frequent shopper program is more likely to be defrauded by dishonest consumers. This is because in the manual system, the consumer keeps the frequent shopper card in his or her possession. The consumer then may mark or hole-punch the card himself without making a purchase. The merchant has no independent means for verifying the number of markings or hole-punches that should appear on any one card and, thus, can not verify whether a particular card has been illegitimately altered. The automated system, on the other hand, is maintained

solely by the merchant's computerized point-of-sale system. The consumer typically has no way to access the computer system, and therefore, has no way to tamper with the records of his or her purchases.

The automated frequent shopper program provides further advantages that the manual program lacks. For instance, the automated frequent shopper program allows merchants to sell recorded consumer transaction data to marketing companies so that they may study consumer purchasing habits. Furthermore, the automated frequent shopper program allows the merchant to issue and redeem coupons distributed by the marketing companies. Such coupons are provided to the consumer at the point-of-sale terminal after a transaction is processed. The coupons are typically selected by the marketing company in response to the consumer's current and previously recorded purchases.

However, both prior art frequent shopper programs discussed above are limited in several aspects. For instance, in prior art frequent shopper programs, only one consumer at a time is motivated to meet the merchant's purchasing goals. A consumer may, at his or her whim, choose to forgo a reward by failing to meet the established minimum number of purchases. A consumer's choice to forgo the reward thus results in a loss of potential sales to the merchant.

Furthermore, the ability of prior art frequent shopper programs to enhance sales is limited by a merchant's promotional budget. Typically, a merchant's promotional budget is restricted, which in turn limits the rewards that may be offered to consumers through the program. If the reward offered is not significant, a consumer may opt to forgo it. Therefore, an under-funded frequent shopper program is less likely to enhance a merchant's sales. From this, it follows that merchants with substantial consumer bases and market shares can afford greater promotional budgets and, therefore, can offer greater rewards. Thus, larger, more prosperous merchants are more likely to benefit from a prior art frequent shopper program than are smaller merchants. Ironically, however, smaller merchants may be better motivated to implement a frequent shopper program, since they may wish to attract more consumers and increase their market share.

There are, therefore, many short-comings in prior art frequent shopper programs as illustrated above. First, consumer motivation to achieve the program

reward may waiver unpredictably. Second, sufficient consumer participation in a frequent shopper program is not assured. Finally, smaller merchants cannot take full advantage of prior art frequent shopper programs.

Summary of the Invention

The present invention provides an advantage over prior art automated frequent shopper programs by allowing two or more consumers to register as a group, or "shopping team," with a merchant who manages a group reward program.

Generally, a group reward program of the present invention is a frequent shopper program that allows individual consumers to register with a merchant as a group and allows the group to earn a reward from the merchant based on the performance of the group. The performance of the group may be, for example, the aggregate or average amount of purchases made from the merchant by either the group or the individual consumers in the group. In order to become eligible to receive the reward, a group must achieve the goal established by the group reward program. For example, the goal may be a number of purchases or a dollar amount of purchases to be achieved. The goal may further include a time limitation within which the purchases are to be achieved. The time limitation is a standard measurement of time, such as a day, a week, a month or a year. The goal may further include a specific time period for making qualified purchases, such as between the dates of June 1, 1998 and July 1, 1998.

Upon registration in a group reward program, each consumer in the group may receive a frequent shopper card that contains an identifier corresponding to the consumer and/or an identifier corresponding to the group to which the consumer belongs. The card is presented by the consumer at a point-of-sale terminal each time he or she undertakes a transaction with the merchant. The point-of-sale terminal may be coupled with other point-of-sale terminals through a network server. The point-of-sale terminal records the purchases made by the consumer and sends the purchase record to the network server for storage. The network server, in turn, stores the transaction data and determines a status of the group by comparing the transaction data stored for each consumer in the group to

a goal stored in the system for the subject group. Rewards can be issued either automatically or manually by the merchant when the purchasing performance of the group meets the goal established for the reward.

The purchasing performance of the group can be determined in several ways. For example, in one embodiment, rewards are issued based on an average performance of the group. In another embodiment, rewards are issued based on an average performance of each consumer in the group. In other embodiments, rewards are issued based on the aggregate performance of the group or the aggregate performance of each consumer in the group.

The goal may be expressed in terms of any one of the following: a number of purchases made by the consumer or consumers, a dollar value of purchases made by the consumer(s), a number of purchases to be made by the consumer(s) within a predetermined time or before a predetermined date, a dollar value of purchases to be made by the consumer(s) within a predetermined time or before a predetermined date, and a specific time or times during which purchases must be made by the consumer(s).

When a group's purchasing performance meets the predetermined purchasing criterion, the group becomes eligible for a reward, such as free or discounted products offered by the merchant, or other rewards. The reward may be determined by the merchant or may be suggested by the group when it registers. The value of the reward may determine the purchase criterion set by the merchant. After a reward is earned, the group may be notified of its eligibility to receive the reward. The merchant may then issue the reward to the group in several ways. For instance, each consumer in the group may be given the reward or the reward may be given to the registered group leader for distribution to the remaining consumers. In another embodiment, the reward may be given to the group up-front at the time of its registration, before any qualified purchases have been made.

Other features and advantages of this invention are readily apparent from the following detailed description when taken in conjunction with the accompanying drawings.

Brief Description of the Drawings

FIG. 1 is a block diagram illustrating a network of point-of-sale terminals maintained by a merchant in accordance with an embodiment of the present invention.

FIG. 2 is a schematic block diagram illustrating a network server that controls the network of FIG. 1.

FIG. 3 is a schematic block diagram illustrating a point-of-sale terminal of the network of FIG. 1.

FIG. 4 is a schematic illustration of a frequent shopper database of the network server of FIG 1.

FIG. 5 is a schematic illustration of a reward rules database of the network server of FIG. 1.

FIG. 6 is a schematic illustration of a group status database of the network server of FIG. 1.

FIGS. 7A-7C show a flow chart illustrating the computer implemented steps used to process a transaction in accordance with one embodiment of the present invention.

FIGS. 8A-8B show a flow chart illustrating the computer implemented steps used to update the databases shown in FIGS. 4-6.

FIGS. 9A-9B show a flow chart illustrating the computer-implemented steps used for processing a reward redemption in accordance with the present invention.

Detailed Description of the Preferred Embodiments

The present invention will now be discussed with reference to Figures 1-9B. FIG. 1 illustrates a merchant's point-of-sale network system 100. In one embodiment of this system, a plurality of point-of-sale terminals 106, 108 and 110, such as the kind commonly manufactured by National Cash Register, Corp. or International Business Machines, Corp., are connected to point-of-sale network server 102 via network 104. Point-of-sale network server 102 is a computer network server of the type commonly manufactured by International Business Machines, Corp. Network 104 can be any commonly known networking system such as a local area network (LAN), an ethernet or token-ring network, a public telephone exchange system, a wide-area network (WAN), an extranet system, an intranet system or the Internet. Likewise, point-of-sale network system 100 may be located within a merchant's store, may connect a chain of merchants' stores or may be an Internet-based sales system such as the kind operated by AMAZON.COM wherein the point-of-sale terminals 106, 108 and 110 are personal computers operated by consumers.

In accordance with a preferred embodiment of the instant invention, point-of-sale network server 102 stores and correlates purchasing and transactional data processed by the plurality of point-of-sale terminals 106, 108 and 110. The data is transmitted to point-of-sale network server 102 by the plurality of point-of-sale terminals 106, 108 and 110 through network 104.

It will be apparent to one of ordinary skill in the art that the network system 100 may include any number of point-of-sale terminals. In the case where there is only one such terminal, it will be further apparent to one of ordinary skill in the art that network 104 and point-of-sale network server 102 are not necessary to the practice of the invention as long as the one terminal can perform certain operations performed by the point-of-sale network server 102 described further in conjunction with FIGS. 2-9B. Finally, it should further be apparent to one of ordinary skill in the art the point-of-sale network server 102 may include as many network servers as are necessary to receive transaction data and perform the functions discussed below.

Referring now to FIG. 2, the point-of-sale network server 102 may include components commonly found in typical computer network server systems. Central processing unit (CPU) 210 may be any commonly manufactured

microprocessor chip, such as the Pentium II® manufactured by Intel Corporation. Central processing unit (CPU) 210 runs at a clock speed determined by clock 208 which is operatively connected to central processing unit (CPU) 210.

Central processing unit (CPU) 210 is further operatively connected to standard computer components such as random access memory (RAM) 200, read-only memory (ROM) 202, input device(s) 204, output device(s) 206, communication port 212 and data storage device 214. Random access memory (RAM) 200 may be one or more single inline memory module (SIMM) chips capable of storing a predetermined amount of data (typically measured in megabytes) and used by central processing unit (CPU) 210 for temporary storage of processing instructions during operation of the point-of-sale network server 102. Read-only memory (ROM) 202 is at least one permanent non-erasable and non-rewritable memory chip that stores initializing instructions to be used by central processing unit (CPU) 210 during a start-up routine performed by point-of-sale network server 102. Further functions of random access memory (RAM) 200 and read-only memory (ROM) 202 will be apparent to one of ordinary skill in the art.

Input device(s) 204 may be one or more of the following commonly known computer peripherals used for inputting data to a computer: a keyboard, a bar-code scanner, a voice-recognition device, a biometric device, a mouse, and a parallel port, serial port, keyboard port or mouse port in combination with these devices. Input device(s) 204 is/are preferably operative so that a human operator may input operating commands to point-of-sale network server 102.

Output device(s) 206 may be one or more of the following commonly known computer peripherals used for outputting data from a computer: a printer, a monitor, a back-up storage device, an LED or LCD display, and a parallel or serial port in combination with any of these devices. Output device(s) 206 is/are preferably operative so that a human operator may receive data from point-of-sale network server 102 to be used in accordance with the instant invention. Further applicable output devices will be apparent to one of ordinary skill in the art.

Communication port 212 may be one or more of the following commonly known computer peripherals used for computer-related communications: a parallel port, a serial port, a network card, a fax/modem/telephone port and the

like. Further such devices will be apparent to one of ordinary skill in the art. Communication port 212 is operative to transmit and receive data between central processing unit (CPU) 210 and network 104.

Data storage device 214 may be any one of the following commonly known computer peripherals used for storing computer data: a hard drive, a floppy disk drive, a DVD drive such as those manufactured by Phillips Electronics, a ZIP drive such as those manufactured by IOMEGA, a tape drive and a Digital Audio Tape drive. Further such devices will be apparent to one of ordinary skill in the art. Data storage device 214 is operative to store an operating system (not shown) and one or more application programs (not shown) in order to successfully operate point-of-sale network server 102 in accordance with the system and method of the present invention.

In accordance with a preferred embodiment of the present invention, data storage device 214 is further operative to store frequent shopper database 216, reward rules database 218 and group status database 220, each of which is discussed below with reference to FIGS. 4, 5, and 6, respectively. Data storage device 214 further stores processing instructions for central processing unit (CPU) 210 to retrieve and perform transaction process 222, periodic reconciliation process 224 and reward redemption process 226, each of which is discussed with reference to FIGS. 7A-9B below.

Referring now to FIG. 3, point-of-sale terminal 106 includes components commonly found in typical point-of-sale terminals. Central processing unit (CPU) 306, clock 304, random access memory (RAM) 300, read-only memory (ROM) 302, communication port 308, input device(s) 310 and output device(s) 312 are analogous in structure and function to central processing unit (CPU) 210, clock 208, random access memory (RAM) 200, read-only memory (ROM) 202, communication port 212, input device(s) 204 and communication port 212, respectively. Additionally, communication port 308 is operative to transmit data to and receive data from point-of-sale network server 102 through network 104.

Optionally, in a stand-alone embodiment in which the point-of-sale terminal operates independently of a network server, point-of-sale terminal 106 contains a data storage device (not shown) analogous in structure, stored contents and functionality to data storage device 214, so that it may perform functions and

processes equivalent to the point-of-sale network server 102 discussed above. Furthermore, in the network embodiment illustrated by FIG. 1, point-of-sale terminal 106 is similar in structure and function to other point-of-sale terminals 108 and 110. It will be apparent to one of ordinary skill in the art, however, that it is not necessary for the plurality of point-of-sale terminals 106, 108 and 110 to be of the exact same structure, though they should preferably be mutually compatible so that they may operate together in merchant's point-of-sale network system 100. Also, point-of-sale terminals 106, 108 and 110 may be equipped to accommodate additional add-on devices regularly used by merchants in the retail industry.

Referring to FIG. 4, frequent shopper database 216 includes frequent shopper identifier field 400, contact information field 402 and group identifier field 404. Each row of frequent shopper database 216 represents a consumer registered as a frequent shopper.

In a preferred embodiment, frequent shopper identifier field 400 allows for entry and storage of a plurality of frequent shopper identifier numbers corresponding to consumers who register with a group in a group reward program. Each consumer, upon registration, is assigned a unique frequent shopper identifier number. The frequent shopper identification number may be an alphanumeric code, or the like. For example, the frequent shopper identifier number may be a consumer's credit card account identifier or a variation thereof. Alternatively, the frequent shopper identifier number may be a unique code generated by the merchant, the merchant's point-of-sale terminal, the merchant's network server, and the like. Furthermore, in an embodiment where the merchant sells services on-line (i.e. over the Internet), the frequent shopper identifier may serve the double purpose of being a user identification number and/or a password.

Contact information field 402 allows for entry and storage of personal identification information corresponding to the consumer entered in frequent shopper identifier field 400. The personal identification information may include a consumer's name, address, telephone number and e-mail address. Alternatively, contact information field 402 may contain personal identification information of a group leader corresponding to the group to which a consumer is assigned. Furthermore, contact information field 402 may contain financial

account information corresponding to a financial account owned by a consumer. The financial account information may be a financial account identifier such as a credit card number, a checking account number or a savings account number and the like.

The financial account information may be stored by a merchant to allow an entry fee to be charged for participation in the group reward program. Furthermore, the financial account information may allow the merchant to secure a reward given to the consumer in an up-front reward embodiment. In such an embodiment, each consumer in the group can secure the value of the reward with an authorization to charge, for example, his or her credit card for the consumer's portion of the value of the reward should the group fail to meet the program's goal. Since the reward is offered up-front, consumers are better motivated to join the instant group reward program. Because the pre-issued reward is secured by the consumer, he or she is further motivated to achieve the merchant's established goals, so as to avoid a penalty being charged against his or her account.

Group identifier field 404 allows for entry and storage of a group identifier corresponding to the group to which a consumer is assigned. Similar to the frequent shopper identifier, the group identifier may be an alphanumeric code or the like. It should be recognized that a single consumer may belong to more than one group. Thus, a consumer may have one or more entries in frequent shopper database 216, each entry corresponding to a group to which the consumer belongs.

Referring now to FIG. 5, reward rules database 218 includes reward identifier field 500, reward type field 502, reward rules field 504, reward redemption method field 506, status notification method field 508 and reward notification method field 510. Each row of reward rules database 218 represents a reward that a group may receive upon achieving its goal.

Reward identifier field 500 allows for entry and storage of a reward identifier corresponding to a reward offered in a group reward program. The reward identifier may be an alphanumeric code or the like used by a merchant to identify a particular reward.

Reward type field 502 allows for entry and storage of a description of a reward offered in a group reward program. The reward type may be a written

description of the reward. Examples of rewards offered in a group reward program include free or discounted products offered by the merchant, frequent flier miles, pre-paid telephone time, sweepstakes entries, lottery tickets, rebates, coupons or a donation to a charity or the like.

Reward rules field 504 allows for entry and storage of a description of the rules applicable to a particular reward type by which a group becomes eligible to earn the reward in a group reward program. Examples of reward rules include a number of purchases to be made by a group, a dollar value of purchases to be made by the group, a number of purchases to be made by the group within a predetermined time or before a predetermined date, a dollar value of purchases to be made by the group within a predetermined time or before a predetermined date, specific products to be purchased by the group, and a specific time or times during which purchases must be made by the group. Each rule thus defines a goal that a group will attempt to meet.

A description of the reward rules may further include a description of how the performance of the group is to be measured, such as an average performance of the group, an average performance of each consumer in the group, the aggregate performance of the group or the individual performance of each consumer in the group. Further methods for measuring a performance of the group are disclosed in co-pending United States patent application Serial No. 08/948,144 filed on October 9, 1997.

Additionally, a description of the reward rules may further include a description of the type of transactions made by a consumer that are qualified under a group reward program. A "qualified transaction," as contemplated by the instant invention, is a purchase that is counted when measuring the purchasing performance of a group participating in a group reward program. Examples of qualified purchases include: a purchase over $10.00, a purchase in which the payment is made by cash or debit card, or a purchase of specific goods or services. Other types of qualified transactions will be apparent to those of ordinary skill in the art.

Reward redemption method field 506 allows for entry and storage of a description of the method by which a reward is to be redeemed in a group reward program. Such methods include a receipt issued to each consumer in a group

printed at a point-of-sale terminal printer, a check issued to a group leader, an automatic discount applied by a point-of-sale terminal during each group member's next purchase subsequent to reward eligibility, and the like. In an embodiment where the merchant provides for the sale of products and services online, the reward method may include the issuance of an electronic mail message, an electronic coupon and the like.

Status notification method field 508 allows for entry and storage of a description of a method by which consumers may be notified of their eligibility to receive a group reward. Examples of status notification methods include a printout or receipt from a point-of-sale terminal at the time of a consumer's transaction, a communication via electronic mail or the Internet, a facsimile transmission, automated or manual telephone messaging, a postal communication or a messaging system accessible via a point-of-sale display located in the merchant's place of business, or any other medium. The status notification method may allow a group to check its purchasing performance data in one of several manners. For instance, a status report may be issued at regular time intervals or upon request of any one of the consumers in the group. The status report can be issued to a registered group leader who then may inform the remaining group members of the group's status. Alternatively, the status report can be issued to each member of the group. In addition, status notification may be performed by the point-of-sale network server 102 or any of the plurality of point-of-sale terminals 106, 108, and 110.

Reward notification method field 510 allows for entry and storage of a description of a method by which a group is notified when they become eligible to receive a group reward. Reward notification methods may be performed in the same manner as status notification methods described above.

Referring to FIG. 6, group status database 220 includes group identifier field 600, reward identifier field 601, reward status field 602, frequent shopper identifier field 603, status field 604 and group leader identifier field 606. Each row of group status database 220 corresponds to a consumer participating in a group reward program.

Group identifier field 600, reward identifier field 601 and frequent shopper identifier field 603 contain the same information as described for group

identifier field 404, reward identifier field 500 and frequent shopper identifier field 400, respectively. It will be apparent to one of ordinary skill in the art that the information in fields 404, 500, and 400 can be written in group status database 220 independently of the corresponding fields appearing in frequent shopper database 216 and reward rules database 218. However, for illustrative purposes these fields are written simultaneously as cross-related database fields, a technique which is well known in prior art database systems.

Reward status field 602 allows for entry and storage of a description of the current status of a consumer of a corresponding group participating in a group reward program. The status of each consumer in a group may be the information that is reported to a consumer or a group through the previously described status notification method. The entries in reward status field 602 are determined in accordance with the reward rules applicable to the group. For example, if the reward rules dictate that a group must make a certain dollar amount of purchases within a month, then the reward status field will, for each consumer, indicate that consumer's dollar value of purchases for that month.

Furthermore, the data stored in reward status field 602 may reflect either the performance of each consumer in the group or the performance of the group overall. In an embodiment where the stored data reflects the performance of the consumer, as exemplified by the first two rows of FIG. 6, the purchasing data for a consumer is updated and recorded in reward status field 602 each time a consumer makes a qualified transaction, as discussed in accordance with transaction process 222. As will be apparent to one of ordinary skill in the art, this embodiment is particularly useful where the performance of the group is measured based on the individual or average performance of each group member.

In an embodiment where the stored data reflects the performance of the group, as exemplified by the third and fourth rows of FIG. 6, when a consumer in a group makes a qualified purchase, central processing unit (CPU) 210 recalculates the performance of the group by retrieving the stored performance from reward status field 602 and adding the current purchase to the stored performance. The new value is then stored in reward status field 602 for each consumer in the subject group. As will be apparent to one of ordinary skill in the

art, this embodiment is particularly useful where the performance of the group is measured as an aggregate performance of the group.

Status field 604 allows for entry and storage of a description of the status of a group's eligibility, whether the group has been notified and whether a reward has been redeemed.

Group leader identifier field 606 allows for entry and storage of a group leader identifier. The group leader identifier may be the frequent shopper identifier corresponding to the consumer who is registered as a leader of a group. Alternatively, the group leader identifier may be a separate alphanumeric code, or the like.

FIGS. 7A-7C are a flowchart illustrating a method of processing a transaction with a consumer in accordance with transaction process 222 of the instant invention. Prior to transaction process 222, a consumer selects one or more items offered for sale by a merchant. The consumer presents the item(s) at one of the plurality of point-of-sale terminals 106, 108 and 110 along with his or her frequent shopper card during the transaction.

Transaction process 222 begins when an operator of the point-of-sale terminal receives a frequent shopper card from the consumer and inputs the frequent shopper identifier and transaction information into the point-of-sale terminal 106 via input device 310 (step 700). At step 702, point-of-sale network server 102 is queried by the point-of-sale terminal through network 104 to determine whether the consumer is a member of a registered group. Central processing unit (CPU) 210 receives the frequent shopper identifier and the transaction data through communication port 212 and searches frequent shopper identifier field 400 of frequent shopper database 216 for a matching frequent shopper identifier. If a match is not found, the transaction is processed in a conventional manner (step 704), i.e. the transaction is processed without any adjustments being made to group status database 220. If a match is found then a consumer is identified by the received frequent shopper identifier and the process continues on to step 706.

At step 706, central processing unit (CPU) 210 retrieves the group identifier corresponding to the consumer from group identifier field 404 of frequent shopper database 216. The group identifier in turn indicates a record of

the group status database 220 that corresponds to the consumer. At step 708, central processing unit (CPU) 210 adjusts the reward status corresponding to the consumer stored in reward status field 602 according to the transaction data received from the point-of-sale terminal. At step 710, central processing unit (CPU) 210 retrieves the reward identifier stored in reward identifier field 500 corresponding to the consumer and looks up the reward rule in reward rules field 504.

At step 712, central processing unit (CPU) 210 retrieves all the reward statuses stored in reward status field 602 that correspond to the consumer's group. Central processing unit (CPU) 210 correlates the retrieved reward statuses to determine the performance of the group and compares the performance of the group to the reward rules. If the group performance does not at least equal the goal specified by the reward rules, the remainder of the transaction is processed in a conventional manner (step 704). If the group performance does at least equal the goal specified by the reward rules, process 222 continues on to step 714.

For example, if the reward rules state that the aggregate performance for the group must exceed $1000.00 of purchase in a month, central processing unit (CPU) 210 retrieves the reward statuses for each consumer in the group. As discussed above, the reward statuses may be stored in the same format as the reward rules, in this case, as a dollar value of purchases made by the consumer in the current month. The central processing unit (CPU) 210 will then, in accordance with the aggregate group performance rule, add the total dollar value of purchases made by the group to determine a group performance. If the performance exceeds $1000.00, central processing unit (CPU) 210 will determine that the group is eligible to receive the reward. If the performance does not exceed $1000.00, central processing unit (CPU) 210 will determine that the group is not eligible to receive the reward.

At step 714, central processing unit (CPU) 210 retrieves the reward notification method stored in reward notification method field 510 that corresponds to the reward type assigned to the consumer's group. At step 716, central processing unit (CPU) 210 determines whether the reward notification is to be performed at the point-of-sale terminal. If so, process 222 continues at step 722, discussed below. If not, transaction process 222 continues at step 718.

At step 718, central processing unit (CPU) 210 outputs the reward notification pursuant to the reward notification method corresponding to the reward for which a group is eligible. At step 720, central processing unit (CPU) 210 sets the status in status field 604 to "eligible/notified/not_redeemed" for each consumer in the group, at which point transaction process 222 ends.

Referring to FIG. 7C, if transaction process 222 continues to step 722, central processing unit (CPU) 210 sends a signal through network 104 to the point-of-sale terminal. Upon receipt of the signal, the point-of-sale terminal issues a reward notification to the consumer through output device(s) 312. Central processing unit (CPU) 210 then sets the status in status field 604 to "eligible/notified/not_redeemed" for each consumer in the group, at which point transaction process 222 ends. In an alternate embodiment, the reward may be applied simultaneously at the point of notification.

FIGS. 8A and 8B illustrates a periodic reconciliation process 224 performed by central processing unit (CPU) 210 for each group identifier stored in group status database 220. For a given group identifier, central processing unit (CPU) 210 searches for a reward identifier stored in reward identifier field 500 that corresponds to the group identifier (step 800). At step 802, central processing unit (CPU) 210 retrieves the reward rules stored in reward rules field 504 corresponding to the reward identifier. At step 804, central processing unit (CPU) 210 retrieves all reward statuses that correspond to the group identifier from reward status field 602 and determines the group performance, as discussed previously.

At step 806, central processing unit (CPU) 210 determines whether the group is eligible to receive a reward by reading the status retrieved in step 804. If the group is eligible to receive the reward, periodic reconciliation process 224 continues to step 812 discussed in conjunction with FIG. 8B below. If the group is not eligible to receive the reward, periodic reconciliation process 224 continues at step 808.

At step 808, central processing unit (CPU) 210 retrieves a status notification method corresponding to the reward identifier or identifiers assigned to the group from status notification method field 508. At step 810, central processing unit (CPU) 210 outputs or queues to output a status report through

either output device(s) 206 or communication port 212. The status report is communicated to the group leader or to each member of the group, in accordance with the reward notification method assigned to the group. After step 810, periodic reconciliation process 224 ends.

Referring now to FIG. 8B, if central processing unit (CPU) 210 determines that the group is eligible to receive the reward at step 806, periodic reconciliation process 224 continues at step 812. At step 812, central processing unit (CPU) 210 updates status field 604 corresponding to the group to "eligible/not_notified/not_redeemed" for each consumer corresponding to the group. At step 814, central processing unit (CPU) 210 retrieves the reward notification method corresponding to the reward assigned to the group from reward notification method field 510. At step 816, central processing unit (CPU) 210 determines whether the reward notification is to be performed through a point-of-sale terminal. If so, periodic reconciliation process 224 ends. If not, periodic reconciliation process 224 continues at step 818.

At step 818, central processing unit (CPU) 210 outputs the reward notification pursuant to the reward notification method corresponding to the reward assigned to the group. The outputting function may include a process for storing the status for later outputting, as will be apparent to one of ordinary skill in the art. At step 820, after the reward notification has been output through output device(s) 206 or communication port 212, central processing unit (CPU) 210 sets status field 604 to "eligible/notified/not_redeemed" for each consumer in the group. After step 820 has been completed, periodic reconciliation process 224 ends.

FIG. 9A is a portion of a flow chart illustrating a reward redemption process 226 performed by central processing unit (CPU) 210. This process is typically started when a consumer presents his or her frequent shopper card at a merchant's point-of-sale terminal during a transaction, but may be performed at any time after a group becomes eligible to receive a reward.

At step 900, central processing unit (CPU) 210 receives a frequent shopper identifier transmitted from point-of-sale terminal 106 through network 104. At step 902, central processing unit (CPU) 210 determines whether the frequent shopper identifier corresponds to a consumer belonging to a frequent

shopper group by looking up the frequent shopper identifier in frequent shopper database 216. If the frequent shopper identifier is not found in frequent shopper database 216, reward redemption process 226 proceeds to step 903 where the transaction with the consumer is processed in a conventional manner after which time reward redemption process 226 ends.

If the frequent shopper identifier is found in frequent shopper database 216, reward redemption process 226 continues on to step 904. At step 904, central processing unit (CPU) 210 retrieves the group identifier corresponding to the frequent shopper identifier from frequent shopper database 216. At step 906, central processing unit (CPU) 210 retrieves the reward statuses corresponding to the retrieved group identifier from group status database 220. At step 908, central processing unit (CPU) 210 determines the reward status data and compares the results to the reward rules stored in reward rules database 218 to determine whether the group is eligible to receive the group reward. If, for example, the determined reward status data meets or exceeds the reward rules stored for the group's reward type, frequent shopper database 216 proceeds to step 910. If not, the remainder of the transaction with the consumer is processed in a conventional manner and reward redemption process 226 ends.

At step 910, central processing unit (CPU) 210 retrieves the redemption status corresponding to the received frequent shopper identifier from group status database 220. At step 912, if the redemption status indicates that the group reward has been redeemed, the remainder of the transaction with the consumer is processed in a conventional manner and reward redemption process 226 ends. If the redemption status indicates that the reward has not been redeemed, reward redemption process 226 continues at step 914.

Referring now to FIG. 9B, after determining that the reward has not been redeemed by an eligible consumer, central processing unit (CPU) 210 retrieves the reward redemption method corresponding to the reward identifier associated with the consumer's group from reward rules database 218 (step 914). At step 916, central processing unit (CPU) 210 issues the reward pursuant to the retrieved reward redemption method. At step 918, central processing unit (CPU) 210 sets the redemption status corresponding to the frequent shopper identifier in group

status database 220 to "eligible/notified/redeemed" at which time reward redemption process 226 ends.

The invention disclosed herein creates a self-sustaining promotion for merchants by encouraging a plurality of consumers at a time to participate in a frequent shopper program. This invention, therefore, provides advantages over prior art frequent shopper programs in that consumers in a group registered as a shopping group can encourage each other to work for the common goal necessary to be eligible for a group reward. The consumers therefore have more of a motivation to meet a purchasing goal than in previous programs.

Since consumers are better motivated in the instant program, there will be more compliance with the program, thereby generating more profits for a merchant implementing the program. Hence, smaller merchants having smaller budgets may implement this invention with more success than with prior art frequent shopper programs because of the greater expected returns. Thus, smaller merchants are better able to take advantage of the instant frequent shopper program than those offered in the prior art. A further advantage of the present invention is that, in the up-front reward issuance embodiment discussed above, a consumer is better motivated to join the instant frequent shopper program and is better motivated to achieve the purchasing goals established by the merchant than in prior art frequent shopper programs.

The group reward program described above may include additional features described hereinbelow. For example, the merchant may require each consumer, upon registration, to provide financial account information corresponding to a financial account owned by the consumer. The financial account information may include a financial account identifier, such as a credit card number corresponding to a credit card account, or a checking account number corresponding to a checking account owned by the consumer.

In one embodiment, an entry fee for participating in the group reward may be charged against the financial account. In a second embodiment, a penalty may be charged against the account when a consumer or a group fails to meet the purchasing goals set by the merchant for the group reward program. In an up-front reward embodiment, the consumer may be provided with a group reward upon registration. The value of the group reward may be secured by an open

authorization to charge a penalty, corresponding to either the value of the reward or a portion of the value of the reward, against the financial account should the consumer and/or the group fail to meet the purchasing goal established by the merchant. Further uses of the financial account will be apparent to one of ordinary skill in the art.

While the best mode for carrying out the invention has been described in detail in the foregoing, those of ordinary skill in the art to which the instant invention relates will recognize various alternative designs and embodiments for practicing the invention. Such alternative embodiments are contemplated to be within the scope of the instant invention. Accordingly, it is to be understood that the foregoing description is provided for illustrative purposes only and does not limit the scope of the instant invention, as defined by the appended claims.

We claim:

1. A method for managing a group reward program, comprising:

registering a group for participation in a group reward program, the group including at least two consumers; and

measuring a performance of the group.

2. The method of claim 1, further comprising:

storing a goal to be achieved by the group.

3. The method of claim 2, further comprising:

determining an eligibility of the group to receive the group reward based on at least one of the performance and the goal.

4. The method of claim 3 wherein the determining step comprises:

comparing the performance to the goal; and

determining an eligibility of the group to receive the group reward based on the compared performance and the goal.

5. The method of claim 3 wherein the determining step comprises:

comparing the performance to the goal; and

recording the eligibility of the group if the performance is at least equal to the goal.

6. The method of claim 5, further comprising:

communicating the eligibility to the group.

7. The method of claim 6 wherein the communicating step further comprises:

communicating the eligibility to each of said at least two consumers.

8. The method of claim 6 wherein the communicating step further comprises:

communicating the eligibility to a leader of said group.

9. The method of claim 6 wherein the communicating step further comprises:

communicating the eligibility by at least one of electronic mail, telephone messaging, facsimile transmission, postal delivery, the Internet, a receipt and a point-of-sale display.

10. The method of claim 5, further comprising:

issuing the group reward.

11. The method of claim 10 wherein the group reward includes at least one of a frequent flier miles award, pre-paid telephone time, a sweepstakes entry, a lottery ticket, a rebate, a coupon, a discount and a store credit.

12. The method of claim 10 wherein the issuing step is performed before the measuring step.

13. The method of claim 12, further comprising:

receiving a financial account identifier corresponding to a financial account maintained by at least one of said consumers; and

charging said financial account for at least a portion of a reward value corresponding to the group reward if said performance is less than said goal.

14. The method of claim 5, wherein the issuing step further comprises:

issuing the group reward to a leader of the group.

15. The method of claim 5, wherein the issuing step further comprises:

issuing the group reward to each of said at least two consumers.

16. The method of claim 5, wherein the issuing step further comprises:

issuing the group reward to a party designated by the group.

17. The method of claim 5, wherein the issuing step further comprises:
issuing the group reward to a charity designated by the group.

18. The method of claim 3, further comprising:
communicating the eligibility to said group.

19. The method of claim 18 wherein the communicating step further comprises:
communicating the eligibility to a leader of said group.

20. The method of claim 18 wherein the communicating step further comprises:
communicating the eligibility to each of said at least two consumers.

21. The method of claim 18 wherein the communicating step further comprises:
communicating the eligibility to said group by at least one of electronic mail, telephone messaging, facsimile transmission, postal delivery, the Internet, a receipt and a point-of-sale display.

22. The method of claim 2 wherein the goal is based on an average performance of the group.

23. The method of claim 2 wherein the goal is based on an aggregate performance of said at least two consumers.

24. The method of claim 2 wherein the goal is based on an individual performance for each of said at least two consumers.

25. The method of claim 2 wherein the goal is based on an average performance of each of said at least two consumers.

26. The method of claim 2 wherein the goal comprises an amount of purchases to be made by the group.

27. The method of claim 2 wherein the goal comprises an amount of purchases to be made by the group within a specific time period.

28. The method of claim 2 wherein said goal comprises an amount of purchases to be made by the group within a time limitation.

29. The method of claim 1 wherein the measuring step comprises:

recording at least one purchase made by a consumer of the group.

30. The method of claim 2, further comprising:

determining a status of the group based on said at least one recorded purchase.

31. The method of claim 1 wherein the performance of the group comprises one or more purchases made by the group.

32. A method for managing a group reward program, comprising:

receiving an identifier corresponding to a consumer participating in a group reward program;

processing a transaction corresponding to the identifier; and

updating a status corresponding to the identifier based on the transaction.

33. The method of claim 32 wherein the updating step further comprises:

determining whether the transaction is qualified under the group reward program; and

updating said status when the transaction is qualified.

34. The method of claim 32 wherein the updating step further comprises:

updating a status of a group to which the consumer belongs based on the transaction.

35. The method of claim 32 wherein the updating step further comprises:
updating a status of the consumer based on the transaction.

36. A method for participating in a group reward program, comprising:
providing identification information corresponding to a consumer; and
identifying the consumer with a group participating in a group reward program.

37. The method of claim 36, further comprising:
providing a financial account identifier corresponding to the consumer.

38. The method of claim 36, further comprising:
receiving a frequent shopper card.

39. The method of claim 38 wherein the frequent shopper card comprises a frequent shopper identifier.

40. The method of claim 39 wherein the frequent shopper identifier identifies a group participating in the group reward program.

41. An apparatus for managing a group reward program, comprising:
a storage device; and
a processor connected to the storage device,
the storage device storing a program for controlling the processor; and
the processor operative with the program to:
register a group for participation in a group reward program, the group including at least two consumers; and
measure a performance of the group.

42. A computer readable medium encoded with processing instructions for implementing a method for managing a group reward program, the method comprising:

registering a group for participation in a group reward program, the group including at least two consumers; and

measuring a performance of the group.

43. An apparatus for managing a group reward program, comprising:

a storage device; and

a processor connected to the storage device,

the storage device storing a program for controlling the processor; and

the processor operative with the program to:

receive an identifier corresponding to a consumer participating in a group reward program;

process a transaction corresponding to the identifier; and

update a status corresponding to the identifier based on the transaction.

44. A computer readable medium encoded with processing instructions for implementing a method for managing a group reward program, the method comprising:

receiving an identifier corresponding to a consumer participating in a group reward program;

processing a transaction corresponding to the identifier; and

updating a status corresponding to the identifier based on the transaction.

45. A method for implementing a group reward program, comprising:

identifying at least two consumers as a group in a group reward program;

assigning a consumer identifier to each of said consumers;

assigning a group identifier to said group;

establishing a goal for each of said consumers to achieve in order to receive a group reward;

measuring a performance of each of said consumers;

comparing each performance to said goal; and if each performance is at least equal to said goal:

storing an eligibility of said group to receive said group reward.

46. A method for implementing a consumer group reward program, comprising:

identifying at least two consumers as a group in a group reward program;

assigning a consumer identifier to each of said consumers;

assigning a group identifier to said group;

establishing a goal for said group to achieve in order to receive a group reward;

measuring at least one shopping performance of at least one of said consumers;

comparing said performance to said goal; and if said performance is at least equal to said goal:

storing an eligibility of said group to receive said group reward.

47. The method of claim 46 wherein the measuring step comprises:

recording at least one purchase made by said at least one consumer.

48. The method of claim 46 wherein the establishing step comprises:

establishing an aggregate group performance to be achieved by the group.

49. The method of claim 46 wherein the establishing step comprises:

establishing an average group performance to be achieved by the group.

50. The method of claim 46 wherein the establishing step comprises:

establishing an individual consumer performance to be achieved by each of said consumers.

51. The method of claim 46 wherein the establishing step comprises:

Establishing an average performance to be achieved by each of said consumers.

52. A method for processing a transaction in accordance with a group reward program, comprising:

receiving a frequent shopper identifier corresponding to a consumer registered with a group participating in a group reward program;

processing a purchase made by the consumer;

updating a status of the consumer based on said purchase; and

updating a status of the group based on said purchase.

53. An apparatus for implementing a group reward program, comprising:

a storage device; and

a processor connected to the storage device,

the storage device storing a program for controlling the processor; and

the processor operative with the program to:

identify at least two consumers as a group in a group reward program;

assign a consumer identifier to each of said consumers;

assign a group identifier to said group;

record in said storage device a goal for each of said consumers to achieve in order to receive a group reward;

measure a performance of each of said consumers;

compare each performance to said goal; and

store an eligibility of said group to receive said group reward.

54. A computer readable medium encoded with processing instructions for implementing a method for implementing a group reward program, the method comprising:

identifying at least two consumers as a group in a group reward program;

assigning a consumer identifier to each of said consumers;

assigning a group identifier to said group;

establishing a goal for each of said consumers to achieve in order to receive a group reward;

measuring a performance of each of said consumers;

comparing each performance to said goal; and if each performance is at least equal to said goal:

storing an eligibility of said group to receive said group reward.

55. An apparatus for implementing a consumer group reward program, comprising:

a storage device; and

a processor connected to the storage device,

the storage device storing a program for controlling the processor; and

the processor operative with the program to:

identify at least two consumers as a group in a group reward program;

assign a consumer identifier to each of said consumers;

assign a group identifier to said group;

record a goal for said group to achieve in order to receive a group reward;

measure at least one shopping performance of at least one of said consumers;

compare said performance to said goal; and if said performance is at least equal to said goal:

store an eligibility of said group to receive said group reward.

56. A computer readable medium encoded with processing instructions for implementing a method for implementing a consumer group reward program, the method comprising:

identifying at least two consumers as a group in a group reward program;

assigning a consumer identifier to each of said consumers;

assigning a group identifier to said group;

establishing a goal for said group to achieve in order to receive a group reward;

measuring at least one shopping performance of at least one of said consumers;

comparing said performance to said goal; and if said performance is at least equal to said goal:

storing an eligibility of said group to receive said group reward.

57. An apparatus for processing a transaction in accordance with a group reward program, comprising:

a storage device; and

a processor connected to the storage device,

the storage device storing a program for controlling the processor; and

the processor operative with the program to:

receive a frequent shopper identifier corresponding to a consumer registered with a group participating in a group reward program;

process a purchase made by the consumer;

update a status of the consumer based on said purchase; and

update a status of the group based on said purchase.

58. A computer readable medium encoded with processing instructions for implementing a method for processing a transaction in accordance with a group reward program, the method comprising:

receiving a frequent shopper identifier corresponding to a consumer registered with a group participating in a group reward program;

processing a purchase made by the consumer;

updating a status of the consumer based on said purchase; and

updating a status of the group based on said purchase.

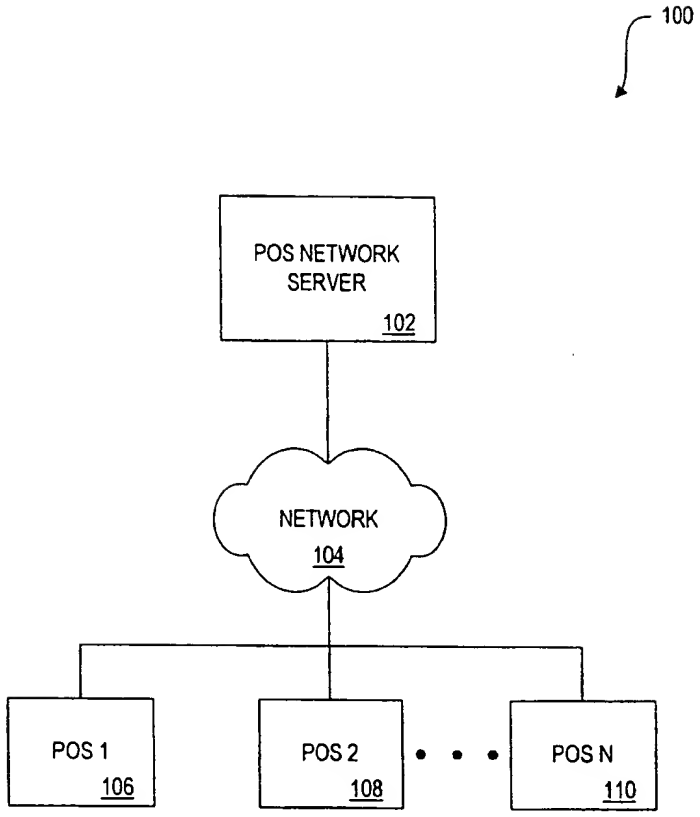
100
POS NETWORK SERVER
102
NETWORK
104
POS 1
106
POS 2
108
POS N
110

FIG. 1

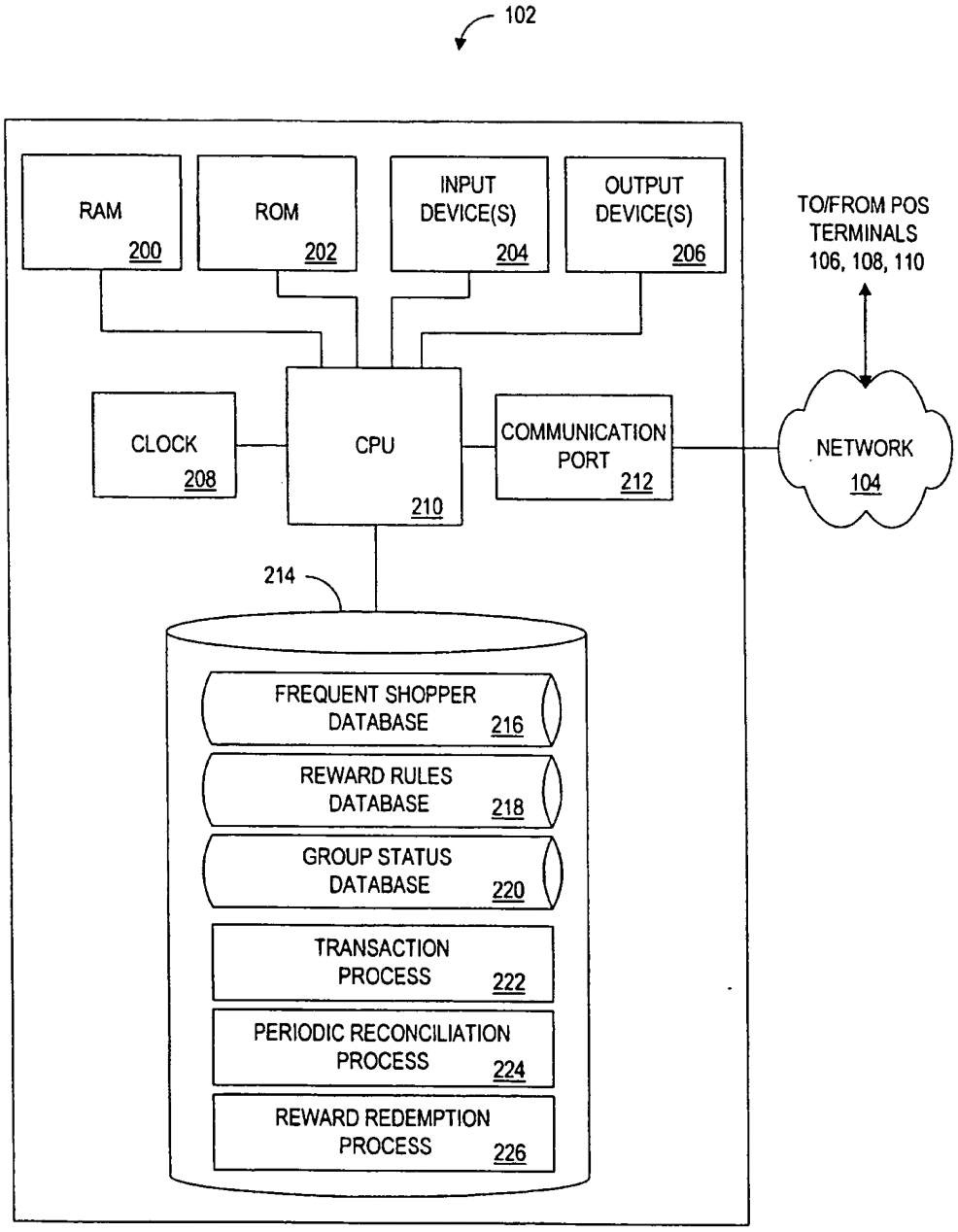
102
RAM
200
ROM
202
INPUT DEVICE(S)
204
OUTPUT DEVICE(S)
206
TO/FROM POS TERMINALS 106, 108, 110
CLOCK
208
CPU
210
COMMUNICATION PORT
212
NETWORK
104
214
FREQUENT SHOPPER DATABASE
216
REWARD RULES DATABASE
218
GROUP STATUS DATABASE
220
TRANSACTION PROCESS
222
PERIODIC RECONCILIATION PROCESS
224
REWARD REDEMPTION PROCESS
226

FIG. 2

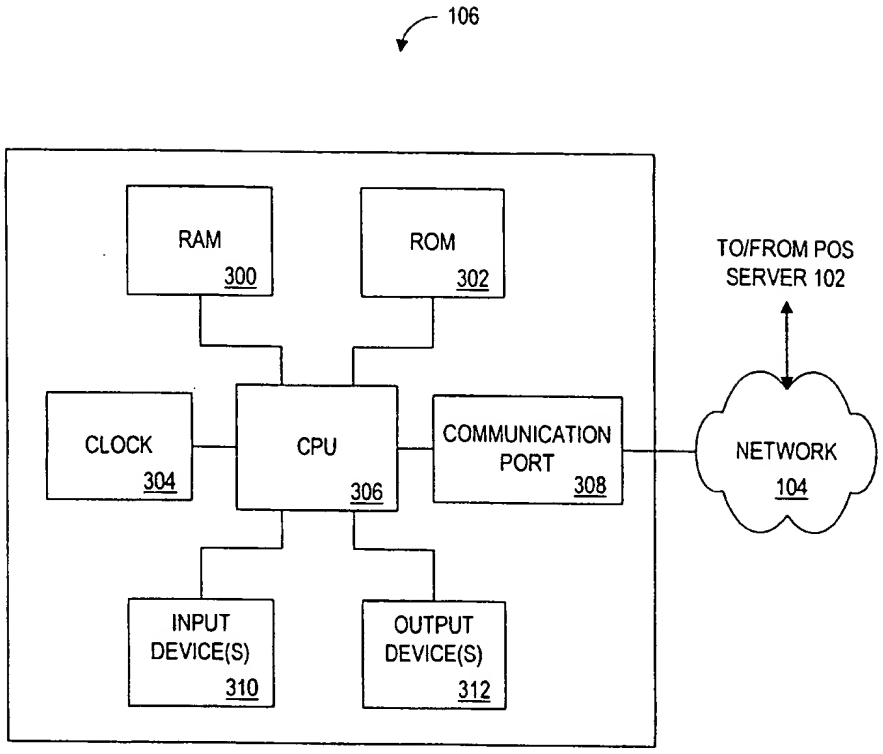
106
RAM
300
ROM
302
CLOCK
304
CPU
306
COMMUNICATION PORT
308
INPUT DEVICE(S)
310
OUTPUT DEVICE(S)
312
TO/FROM POS SERVER 102
NETWORK
104

FIG. 3

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FREQUENT SHOPPER DATABASE 216

FREQUENT SHOPPER IDENTIFIER 400	CONTACT INFORMATION 402	GROUP IDENTIFIER 404
87126746	TOM O'MALLEY 23 MAIN ST. STAMFORD, CT (203) 555-1212	T1
1111-1111-1111-1111	BOB McDONALD 918 VINE ST. STAMFORD, CT (203) 372-1092	T1
89283481	SUE SMITH 76 VICTORY LANE NORWALK, CT (203) 892-8276	T2
80974361	MARY O'BRIEN 12 PLEASANT DR. APT. #2 GREENWICH, CT (203) 982-7152	T2
80927814	SAM SPENDER FINANCIAL ACCT. NO. 0000 1111 2222 3333 SPENDER@WORK.COM	T3
80126734	BILL PARKER 901 STREET TOWN, USA (203) 381-1927	T3
1111-2222-3333-4444	JAY JONES TOWN, USA (203) 761-1192	N/A

FIG. 4

REWARD RULES DATABASE 218

REWARD IDENTIFIER 500	REWARD TYPE 502	REWARD RULES 504	REWARD REDEMPTION METHOD 506	STATUS NOTIFICATION METHOD 508	REWARD NOTIFICATION METHOD 510
R1	$5.00 REBATE COUPON FOR EACH GROUP MEMBER	AGGREGATE GROUP SPENDING OF $1,000 / MONTH	REWARD ISSUED VIA POS TERMINAL PRINTER	OUTBOUND IVRU CALL TO GROUP MEMBERS	NOTIFY EACH GROUP MEMBER THROUGH ISSUING REWARD
R2	$100.00 DONATION TO CHARITY OF GROUP'S CHOICE	10 PURCHASES / FREQUENT SHOPPER / MONTH	STORE MANAGER TO ISSUE COMPANY CHECK TO GROUP LEADER	POS TERMINAL PRINTER MESSAGE TO GROUP MEMBERS	OUTPUT REWARD NOTIFICATION VIA POS TERMINAL PRINTER & POS SERVER PRINTER
R3	15% OFF NEXT PURCHASE OF UPC #102986721	GROUP PURCHASE OF 10 OR MORE UPC #102986721 BEFORE 9/10/99	APPLY 15% DISCOUNT TO EACH CONSUMER'S NEXT PURCHASE OF UPC #102987621 AT POS TERMINAL	E-MAIL CONSUMERS	E-MAIL CONSUMERS
R4	10% NEXT PURCHASE TOTAL	> 3 WEEKDAY PURCHASES / MONTH / CONSUMER	APPLY 10% DISCOUNT TO EACH CONSUMER'S NEXT PURCHASE TOTAL	E-MAIL GROUP LEADER	OUTBOUND IVRU CALL TO CONSUMERS
R5	$50.00 DONATION TO CHARITY OF GROUP'S CHOICE	GROUP AVERAGE $\geq$ 4 PURCHASES / WEEK	STORE MANAGER TO ISSUE COMPANY CHECK TO GROUP LEADER	POS TERMINAL PRINTER MESSAGE TO GROUP MEMBERS	OUTPUT REWARD NOTIFICATION VIA POS TERMINAL PRINTER & POS SERVER PRINTER

FIG. 5

WO 99/20013 5/13 PCT/US98/21218

GROUP STATUS DATABASE 220

GROUP IDENTIFIER 600	REWARD IDENTIFIER 601	REWARD STATUS 602	FREQUENT SHOPPER IDENTIFIER 603	STATUS 604	GROUP LEADER(S) IDENTIFIERS 606
T1	R2	20 / 20 PURCHASES COMPLETE	87126746	ELIGIBLE/NOT_NOTIFIED/NOT_REDEEMED	87126746
T1	R2	12/20 PURCHASES COMPLETE	1111-1111-1111-1111	ELIGIBLE/NOT_NOTIFIED/NOT_REDEEMED	87126746
T2	R1	$958 OF PURCHASES COMPLETE	89283481	NOT_ELIGIBLE/NOT_NOTIFIED/NOT_REDEEMED	89283481
T2	R1	$958 OF PURCHASES COMPLETE	80974361	NOT_ELIGIBLE/NOT_NOTIFIED/NOT_REDEEMED	89283481
T3	R4	>3 WEEKDAY PURCHASES / MEMBER THIS MONTH	80927814	ELIGIBLE/NOTIFIED/NOT_REDEEMED	80927814
T3	R4	>3 WEEKDAY PURCHASES / MEMBER THIS MONTH	80126734	ELIGIBLE/NOTIFIED/REDEEMED	80927814

FIG. 6

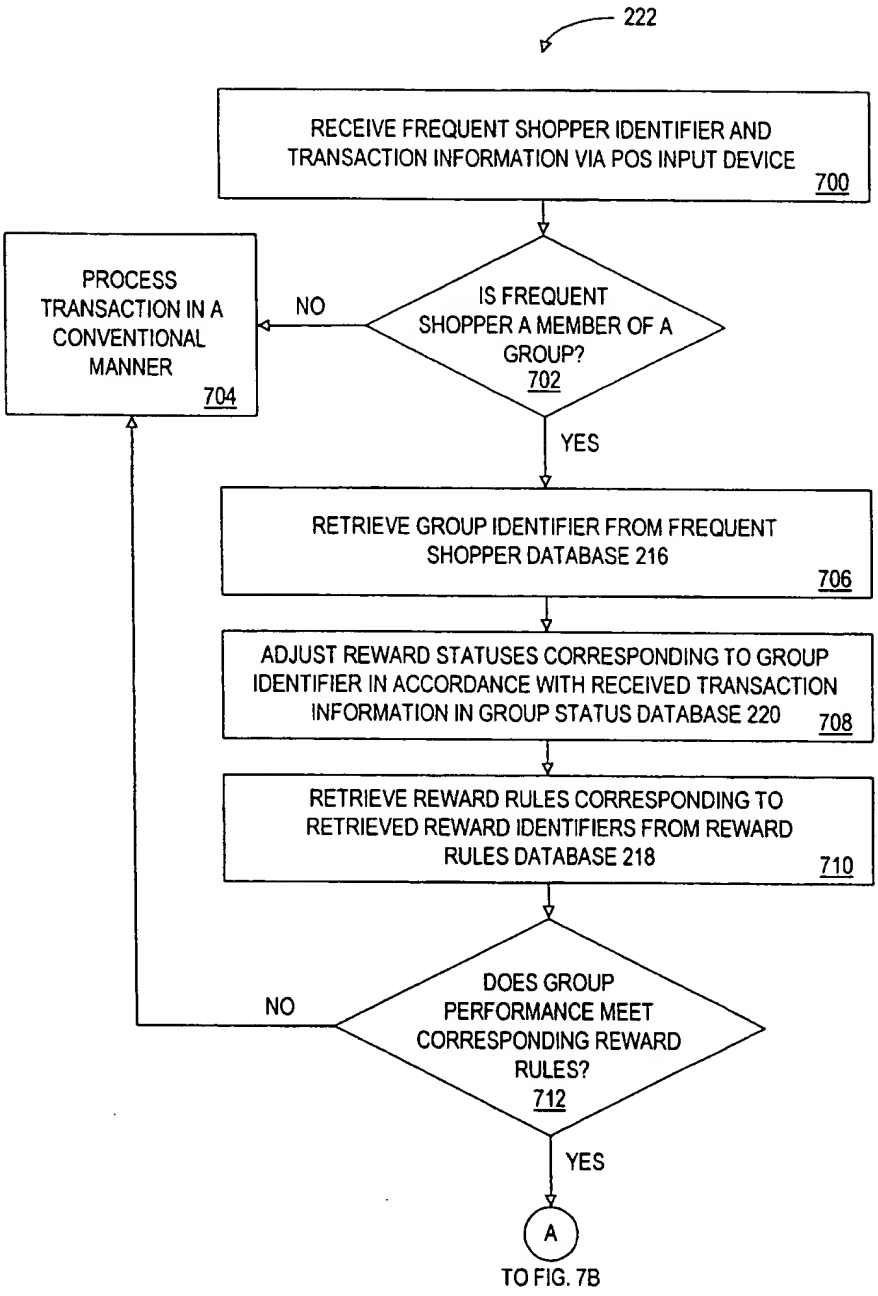
222
RECEIVE FREQUENT SHOPPER IDENTIFIER AND TRANSACTION INFORMATION VIA POS INPUT DEVICE
700
IS FREQUENT SHOPPER A MEMBER OF A GROUP?
702
NO
PROCESS TRANSACTION IN A CONVENTIONAL MANNER
704
YES
RETRIEVE GROUP IDENTIFIER FROM FREQUENT SHOPPER DATABASE 216
706
ADJUST REWARD STATUSES CORRESPONDING TO GROUP IDENTIFIER IN ACCORDANCE WITH RECEIVED TRANSACTION INFORMATION IN GROUP STATUS DATABASE 220
708
RETRIEVE REWARD RULES CORRESPONDING TO RETRIEVED REWARD IDENTIFIERS FROM REWARD RULES DATABASE 218
710
DOES GROUP PERFORMANCE MEET CORRESPONDING REWARD RULES?
712
NO
YES
A
TO FIG. 7B

FIG. 7A

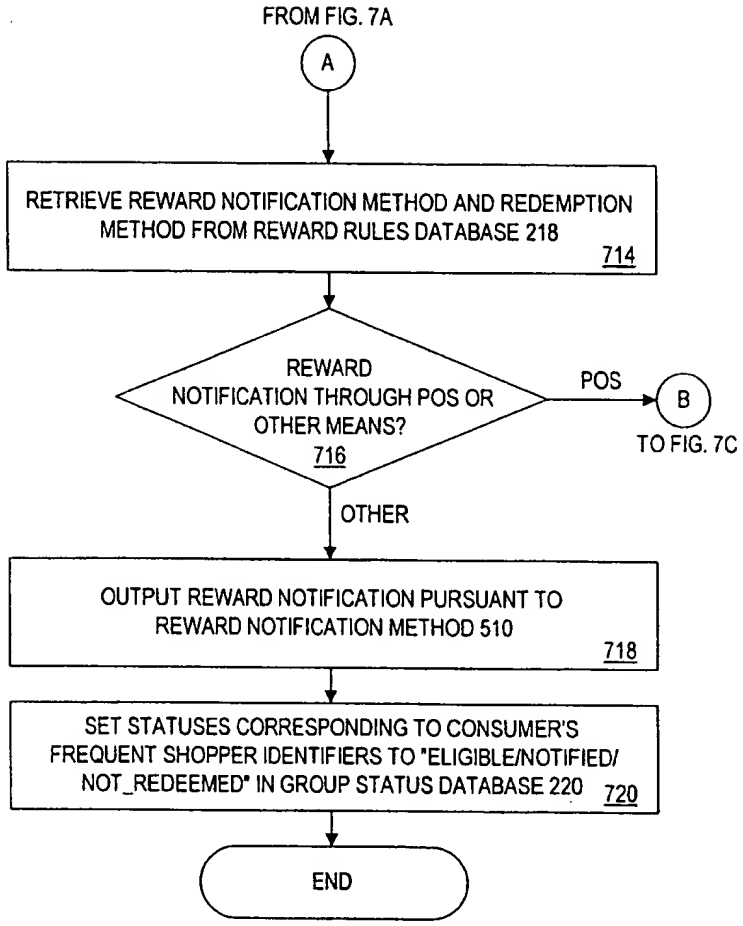
FROM FIG. 7A
A
RETRIEVE REWARD NOTIFICATION METHOD AND REDEMPTION METHOD FROM REWARD RULES DATABASE 218
714
REWARD NOTIFICATION THROUGH POS OR OTHER MEANS?
716
POS
B
TO FIG. 7C
OTHER
OUTPUT REWARD NOTIFICATION PURSUANT TO REWARD NOTIFICATION METHOD 510
718
SET STATUSES CORRESPONDING TO CONSUMER'S FREQUENT SHOPPER IDENTIFIERS TO "ELIGIBLE/NOTIFIED/ NOT_REDEEMED" IN GROUP STATUS DATABASE 220
720
END

FIG. 7B

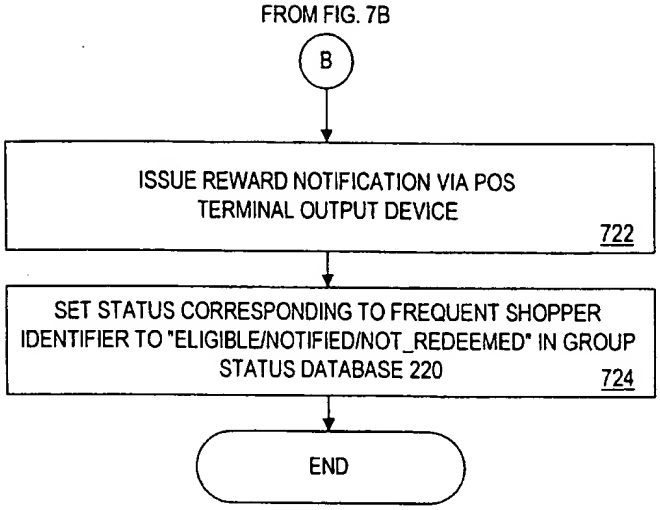
FROM FIG. 7B
B
ISSUE REWARD NOTIFICATION VIA POS TERMINAL OUTPUT DEVICE
722
SET STATUS CORRESPONDING TO FREQUENT SHOPPER IDENTIFIER TO "ELIGIBLE/NOTIFIED/NOT_REDEEMED" IN GROUP STATUS DATABASE 220
724
END

FIG. 7C

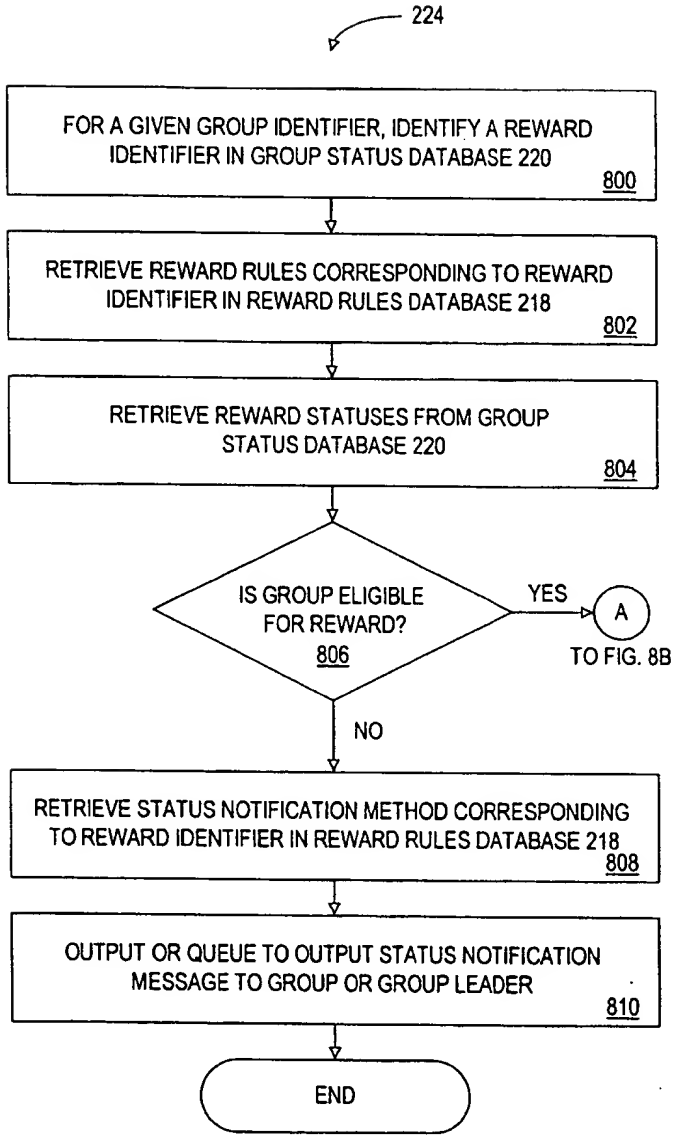
224
FOR A GIVEN GROUP IDENTIFIER, IDENTIFY A REWARD IDENTIFIER IN GROUP STATUS DATABASE 220
800
RETRIEVE REWARD RULES CORRESPONDING TO REWARD IDENTIFIER IN REWARD RULES DATABASE 218
802
RETRIEVE REWARD STATUSES FROM GROUP STATUS DATABASE 220
804
IS GROUP ELIGIBLE FOR REWARD?
806
YES
A
TO FIG. 8B
NO
RETRIEVE STATUS NOTIFICATION METHOD CORRESPONDING TO REWARD IDENTIFIER IN REWARD RULES DATABASE 218
808
OUTPUT OR QUEUE TO OUTPUT STATUS NOTIFICATION MESSAGE TO GROUP OR GROUP LEADER
810
END

FIG. 8A

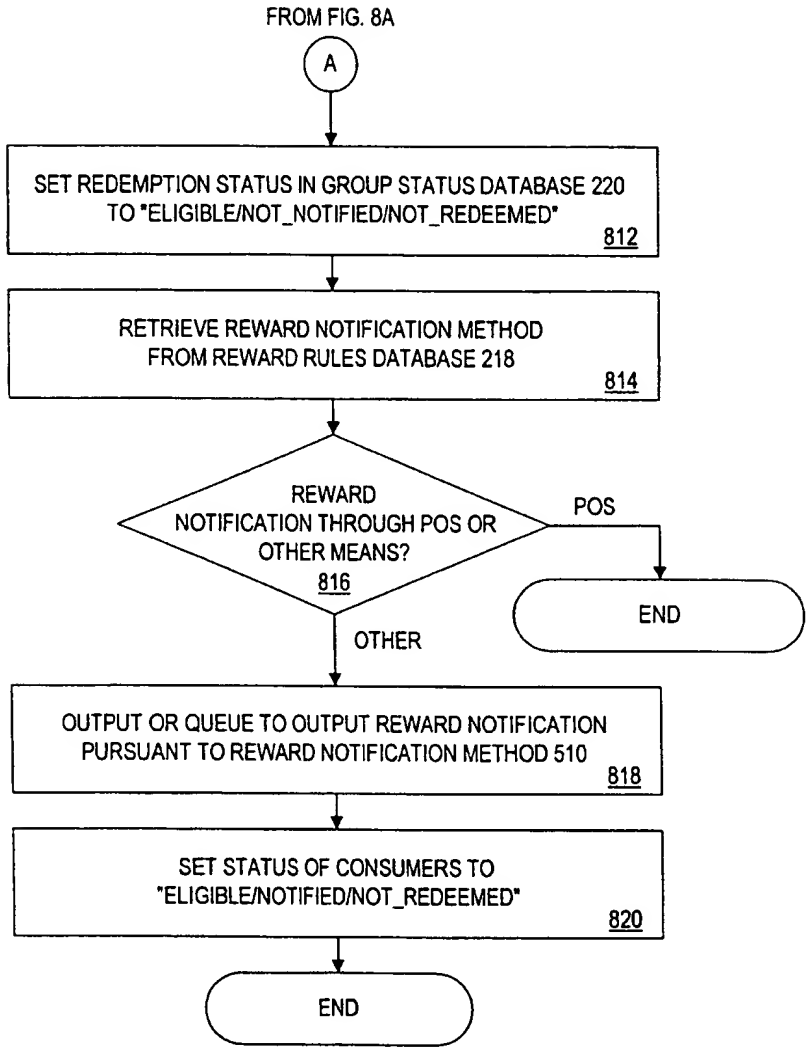
FROM FIG. 8A
A
SET REDEMPTION STATUS IN GROUP STATUS DATABASE 220 TO "ELIGIBLE/NOT_NOTIFIED/NOT_REDEEMED"
812
RETRIEVE REWARD NOTIFICATION METHOD FROM REWARD RULES DATABASE 218
814
REWARD NOTIFICATION THROUGH POS OR OTHER MEANS?
816
POS
END
OTHER
OUTPUT OR QUEUE TO OUTPUT REWARD NOTIFICATION PURSUANT TO REWARD NOTIFICATION METHOD 510
818
SET STATUS OF CONSUMERS TO "ELIGIBLE/NOTIFIED/NOT_REDEEMED"
820
END

FIG. 8B

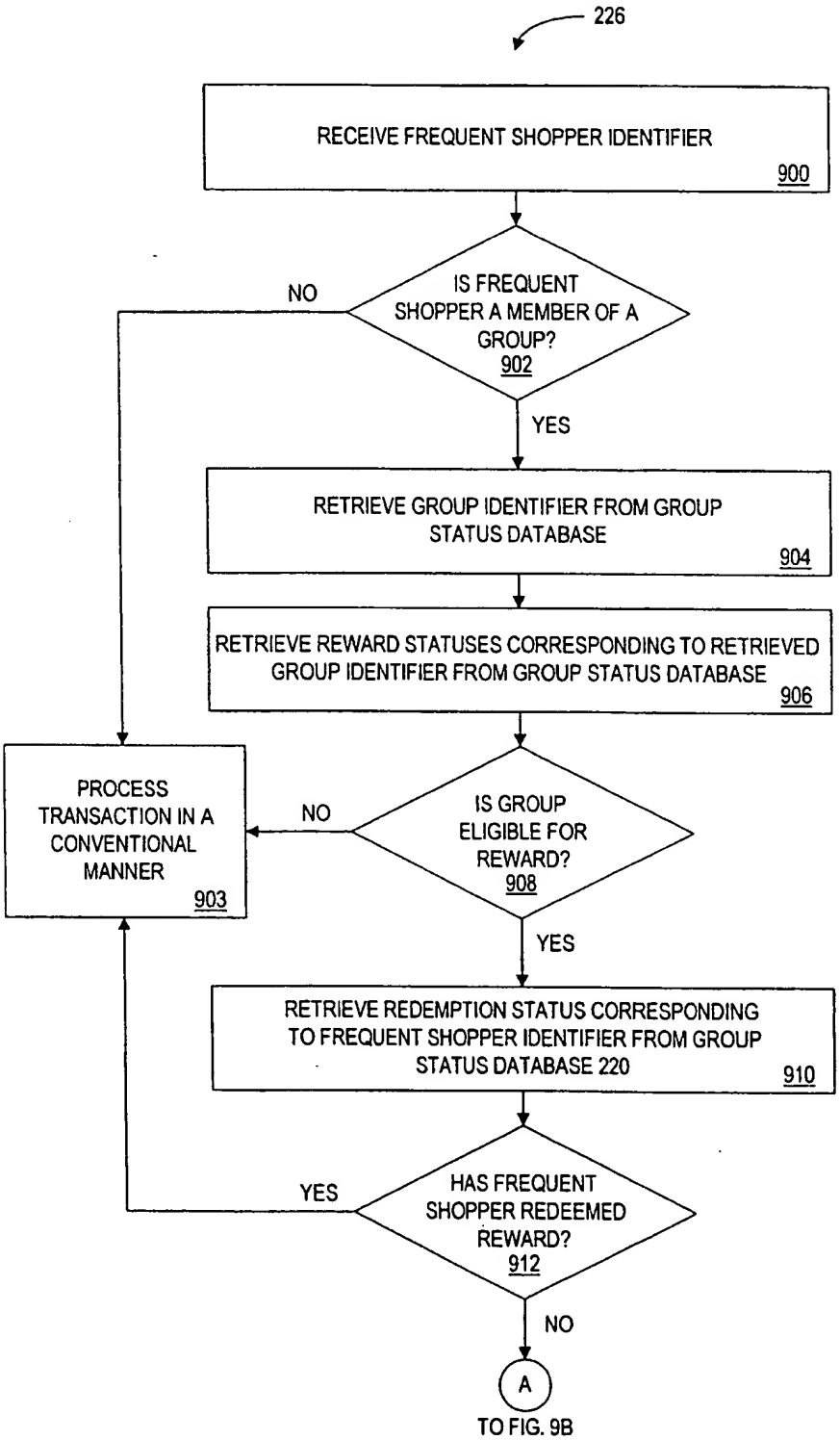
226
RECEIVE FREQUENT SHOPPER IDENTIFIER
900
IS FREQUENT SHOPPER A MEMBER OF A GROUP?
902
NO
YES
RETRIEVE GROUP IDENTIFIER FROM GROUP STATUS DATABASE
904
RETRIEVE REWARD STATUSES CORRESPONDING TO RETRIEVED GROUP IDENTIFIER FROM GROUP STATUS DATABASE
906
IS GROUP ELIGIBLE FOR REWARD?
908
NO
PROCESS TRANSACTION IN A CONVENTIONAL MANNER
903
YES
RETRIEVE REDEMPTION STATUS CORRESPONDING TO FREQUENT SHOPPER IDENTIFIER FROM GROUP STATUS DATABASE 220
910
HAS FREQUENT SHOPPER REDEEMED REWARD?
912
YES
NO
A
TO FIG. 9B

FIG. 9A

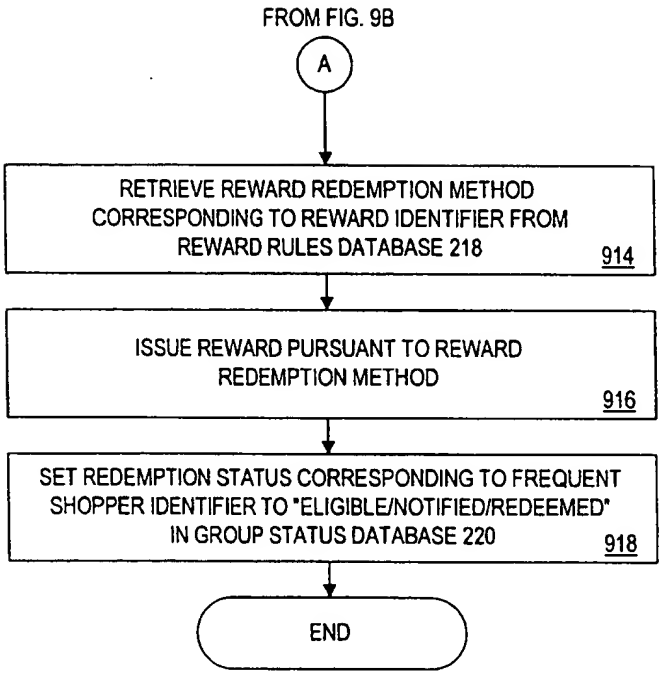
FROM FIG. 9B
A
RETRIEVE REWARD REDEMPTION METHOD CORRESPONDING TO REWARD IDENTIFIER FROM REWARD RULES DATABASE 218
914
ISSUE REWARD PURSUANT TO REWARD REDEMPTION METHOD
916
SET REDEMPTION STATUS CORRESPONDING TO FREQUENT SHOPPER IDENTIFIER TO "ELIGIBLE/NOTIFIED/REDEEMED" IN GROUP STATUS DATABASE 220
918
END

FIG. 9B